IN THE CLAIMS

Claim 1. (Currently amended) A connecting rod assembly for varying a compression ratio of an engine, the engine having a crankshaft and a piston, the connecting rod comprising:

a body and a roller member transmitting force between the piston and the crankshaft, said roller member being movable in low friction rolling contact relative to said body between a first connecting rod position corresponding to a first compression ratio and a second connecting rod position corresponding to a second compression ratio.

Claim 2. (Original) A connecting rod assembly in accordance with claim 1 wherein said roller member is moved from said first position to said second position by its own momentum during operation of said engine.

Claim 3. (Original) A method for varying the compression ratio of an engine, the engine having a connecting rod including a body and a roller member transmitting force between a piston and a crankshaft, the roller member being movable relative to the body between a first position corresponding to a first compression ratio and a second position corresponding to a second compression ratio, the method comprising:

releasing a locking mechanism to allow momentum associated with said roller member to move the roller member from the first position to the second position to change the compression ratio from the first compression ratio to the second compression ratio.

Claim 4. (Currently amended) Apparatus comprising a connecting rod assembly capable of transmitting power from a piston to a crankshaft in an internal combustion engine, said connecting rod comprising a body and at least one roller member transmitting force between said piston and said crankshaft, said roller member being movable relative to said body between a first connecting rod position corresponding to a first compression ratio and a second connecting rod position corresponding to a second compression ratio.

Claim 5. (Original) Apparatus in accordance with claim 4 further comprising a stop mechanism for controlling movement of said roller member.

Claim 6. (Original) Apparatus in accordance with claim 5 wherein said apparatus comprises an engine including at least one piston and one crankshaft, said connecting rod connecting said piston to said crankshaft.

Claim 7. (Original) Apparatus in accordance with claim 6 herein said stop mechanism is movable between a locked position and a released position, and wherein momentum associated with movement of said connecting rod during operation of said engine causes said roller member to move from its first position to its second position when said stop mechanism is in its released position.

Claim 8. (Original) Apparatus in accordance with claim 7 further comprising a crankpin bearing retainer transmitting loads between said connecting rod body and said crankshaft, and wherein said roller engages said bearing retainer and said connecting rod body.

Claim 9. (Original) Apparatus in accordance with claim 4 wherein said apparatus further comprises a motor vehicle and an engine including at least one piston and one crankshaft, said connecting rod connecting said piston to said crankshaft.

Claim 10. (Currently amended) A method of varying the effective length of a connecting rod in an engine by varying the position of the connecting rod with respect to a crankshaft, with said engine having at least one compression member on a movable engine component, said compression member being movable relative to said movable engine component between a first connecting rod position corresponding to a first compression ratio and a second connecting rod position corresponding to a second compression ratio, said movable engine component being in periodic motion while said engine is operating, a movable stop for said at least one compression member to prevent said compression member from moving relative to said engine component between their first and second positions except at selected times, said movable stop being movable between a locking position in which it prevents movement of its

associated compression member between first and second position, and a release position in which it permits movement of its associated compression member between first and second position, said method comprising:

maintaining said at least one compression member in its first position during operation of the engine with a first compression ratio; and

shifting said at least one compression member to its second position to enable operation of the engine with a second compression ratio by moving said movable stop to its release position so that the momentum associated with said at least one compression member results in its displacement to said second position.

Claim 11. (Original) A method of varying the effective length of a connecting rod in an internal combustion engine comprising a first compression member movable between a first position corresponding to a first compression ratio and a second position corresponding to a second compression ratio; a second compression member movable between a first position corresponding to a first compression ratio and a second position corresponding to a second compression ratio; each of said compression members being subject to periodic forces urging it alternately toward its first position and its second position while said engine is operating; a first pair of movable stops for said compression members to prevent said compression members from moving from their first positions to their second positions except at selected times, each of said first pair of movable stops being movable between a locking position in which it prevents movement of its associated movable compression member from its first position to its second position, and a release position in which it permits movement of its associated movable member from its first position to its second position; said method comprising:

maintaining said compression members in their first positions during operation of the engine with a first compression ration; and

permitting said compression members to shift to their second positions to enable operation of the engine with a second compression ratio.

Claim 12. (Original) A method in accordance with claim 11 wherein said compression members are rollers, and wherein permitting said compression members to shift to their second positions to enable operation of the engine with a second compression ratio comprises permitting said compression members to roll into their second positions.

Claim 13. (Original) A method in accordance with claim 12 wherein said compression members have generally cylindrical contact surfaces.

Claim 14. (Original) A method in accordance with claim 13 wherein permitting said compression members to shift to their second positions comprises shifting at least one of said movable stops from its locking position to its release position through the use of a movable spool having a slot to enable application of pressure to said at least one of said movable stops in either of two directions while permitting limited freedom of movement to said stop.

Claim 15. (Original) A method in accordance with claim 14 further comprising biasing each of said first pair of movable stops toward its locking position while (a) permitting each of said first pair of movable stops to move from said locking position to said release position in response to pressure from one of said compression members moving from first to second position and (b) preventing each of said first pair of movable stops from moving from said release position to said locking position in response to pressure from one of said compression members moving from second position toward said first position.

Claim 16. (Original) A method in accordance with claim 11 wherein said permitting results in increasing the effective length of the connecting rod while said connecting rod is loaded in tension during an intake stroke.

Claim 17. (Original) A method in accordance with claim 11 wherein said permitting results in decreasing the effective length of the connecting rod while said connecting rod is loaded in compression.

Claim 18. (Original) A method in accordance with claim 11 wherein said permitting results at different times in increasing the effective length of the connecting rod while said connecting rod is loaded in tension, and decreasing the effective length of the connecting rod while said connecting rod is loaded in compression.

Claim 19. (Original) A method in accordance with claim 11 wherein the effective length of said connecting rod is shortened while said connecting rod is loaded in compression during an exhaust stroke.

Claim 20. (Original) A method in accordance with claim 11 wherein the effective length of said connecting rod is shortened while said connecting rod is loaded in compression during a compression stroke.

Claim 21. (Original) A method in accordance with claim 11 further comprising permitting said compression members to shift back to their first positions to re-enable operation of the engine with said first compression ratio.

Claim 22. (Original) A method in accordance with claim 21 further comprising operating a second pair of movable stops to prevent said compression members from moving from their second positions to their first positions except at selected times, each of said second pair of movable stops being movable between a locking position in which it prevents movement of its associated movable compression member from its second position to its first position, and a release position in which it permits movement of its associated movable member from its second position to its first position.

Claim 23. (Original) A method in accordance with claim 22 wherein said movable stops comprise double acting levers.

Claim 24. (Currently amended) A connecting rod assembly for varying a compression ratio of an internal combustion engine, the engine having a crankshaft and a piston, the connecting rod assembly comprising:

a first portion adapted to be connected to the piston;

a second portion adapted to be connected to a crankshaft for varying the position of said connecting rod with respect to said crankshaft, said first portion being adapted to move axially with respect to said second portion; and

a roller member disposed between said first and second portions, said roller member being movable between said first and second portions from a first connecting rod position corresponding to a first compression ratio to a second connecting rod position corresponding to a second compression ratio.